REMARKS

On an initial note, the Applicants wish to thank the Examiner for pointing out that the oath or declaration was missing inventor residence information. A substitute declaration is submitted herewith. Applicants also wish to thank the Examiner for identifying the minor informalities in the specification requiring correcting. The specification has been corrected accordingly. Applicants further wish to thank the Examiner for acknowledging that claims 6 and 12 include novel and nonobvious subject matter. In order to expedite prosecution of the application and issue of a patent, base claim 1 has been amended to include all limitations of claim 6 along with intervening claim 5 and base claim 7 has been amended to include all limitations of claim 12 along with intervening claim 11. Claims 5, 6, 11, and 12 have correspondingly been cancel. The Applicants submit that these minor amendments and corrections herein are made without prejudice as to patentability, including the doctrine of equivalents, and no new matter has been added. Applicants also submit herewith a Request for Two-Month Extension of Time and the required fee for a small entity.

Claims 1-5 and 7-11 are Non Obvious

The Examiner rejected Claims 1, 2, 5, 7, 8, and 11 under 35 U.S.C. 103(a) as being unpatentable over Isoyama (U.S. Patent No. 6,570,873) in view of Han (U.S. Patent No. 6,009,097), Miles (U.S. Patent No. 6,665,495) and Cloonan (U.S. Patent No. 5,537,403). The Examiner further rejected claims 3, 4, 9 and 10 under 35 U.S.C. 103(a) as being unpatentable over Isoyama in view of Han, Miles and Cloonan and in further view of Lee (U.S. Patent No. 6,219,350). Although Applicants have amended the independent claims to include matter the Examiner has acknowledged is novel and nonobvious in order to expedite grant of a patent, the Applicants nevertheless respectfully traverse the rejection and provides arguments and support thereof.

The Applicants' invention includes a data switching system having ingress routers IR interconnected with egress routers ER by way of a switching matrix 3 controlled by a control unit 5 which performs an arbitration process to schedule connections across the switch matrix 3. This scheduling is performed to ensure that data cells which arrive at the ingress routers IR at

unpredictable times are transmitted to the correct egress routers ER. Each ingress router IR further includes a queue for time division multiplex traffic, and at times when such traffic exists, the control unit 5 overrides the arbitration process to allow the time division multiplex traffic to be transmitted through the switch matrix 3. A pipeline stage for satisfying multicast requests and one or more stages for satisfying unicast requests can also be provided.

Isoyama et al. describes a system for scheduling reservation of traffic with priority, in which packets belonging to high-priority traffic are forwarded from an input port to an output port in accordance with a priority reservation allocation matrix. *See* col. 3, lines 3-49.

Han describes a communication system that uses ATM switches as routers and ATM standards and existing IP protocols to route IP traffic. The system uses ATM signaling to set up switched virtual paths that cut-through routers and switches so that new arrival packets reaching a first switch/router will use the cut-through path, which enables intermediate switch/routers to transport the traffic at hardware speeds. *See* col. 2, lines 31-41.

Miles et al. describes a system and method for providing routing of optical data through a telecommunications router. Referring to Figures 4 and 12a, col. 6, line 54 to col. 7, line 61, and the abstract, the optical router 50 includes a number of ingress edge units 60 coupled to an optical switch core 30 coupled further to a number of egress edge units 160. The ingress edge units 60 receive the optical data packets from the data links and aggregate the optical data packets into "super packets" where each super packet is to be routed to a particular destination egress edge unit 160. The super packets are sent from the ingress edge units 60 to an optical switch fabric 70 within the optical switch core 30 that routes each super packet through the optical switch fabric 70 to the super packet's particular destination egress edge unit 160. This routing is managed by a core controller 40 that monitors flow information at each ingress edge unit 60 to control the super packet generation and transmission to the optical switch fabric 70 and schedules each super packet to exit the optical switch fabric 70. The egress edge units 160 receive the super packets, de-aggregate the super packets into the original optical data packets, and transmit the optical data packets to the data lines.

Cloonan et al. describes a telecommunication switch that uses data packets in order to communicate at aggregate throughputs and having a flexible packet switch architecture that will operate with throughputs in the terabyte per second level. *See* col. 1, lines 26-29 and col. 4, line 60-64.

Lee describes an asynchronous transfer mode (ATM) cell converting apparatus which also includes tone and dual tone multifrequency (DTMF) generating functions. *See* col. 4, lines 24-34. The apparatus includes an ATM cell transmission line connected to an ATM network, a plurality of trunk lines connected to a TDM network, and an ATM cell converting unit for outputting through the trunk lines ATM cell type data received through the ATM cell transmission line or tone and DTMF data. *See* col. 4, lines 50-58.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The Applicants respectfully submit that the Examiner has not met each element of the *prima facie* case of obviousness.

Regarding the first element of the *prima facie* case, neither of the references provide a suggestion or motivation to combine and none has been identified. Further, even if the references could somehow be combined or modified, this does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination, which it does not. *See* MPEP 2143.01. It is noted that the Examiner's objection to claim 1 was based on alleged obviousness in view of a combination of no less than four different U.S. patents. It is also noted that the only argumentation provided by the Examiner in support of the assertion that one of ordinary skill in the art would, at the time the invention was made, have combined the teaching of these four documents, is in the final paragraph on page 4 of the office action (paper No. 20050516). The Examiner essentially states that it would have been obvious to one of ordinary skill in the art to add the methods of Han, Miles and Cloonan to the system of Isoyama to achieve the number of defined benefits. However, no reasoning is given as to why a person of ordinary skill starting from Isoyama would have identified the problems that are solved by the features provided in the other cited references, and no reasoning is given as to why a person of ordinary skill would have decided that the disclosures of each of Han, Miles, and Cloonan were

necessarily compatible with the system of Isoyama. Furthermore, neither of the references suggest the desirability of such a combination. Thus, this element is lacking.

Regarding the last element of the *prima facie* case, the references to not teach or suggest all claim limitations. For example, Miles et al. describes that TDM data can receive priority over PKT data when building super packets within the ingress edge unit super packet factory 120. *See* col. 22, lines 28-34. Further, Miles et al. describes that the core controller 40 can "reserve" a portion of the available bandwidth for a particular type of data such that the reserve portion is not subject to change as the dataflow changes. *See* col. 22, lines 37-41. Miles et al., however, does not disclose, teach, or suggest a control unit that includes a time division multiplex connection unit arranged to *override* an arbitration procedure for each time division multiplex frame. Thus, this element is lacking. Correspondingly, the claims, as filed, define over the cited references.

Please note, in commenting upon the references and in order to facilitate a better understanding of the differences that are expressed in the claims, certain details of distinction between the references and the present invention have been mentioned, even though such differences do not appear in all of the claims. It is not intended by mentioning any such unclaimed distinctions or making any amendments herein to create any implied limitations in the claims. Not all of the distinctions between the prior art and Applicants' present invention have been made by Applicants. For the foregoing reasons, the Applicants reserve the right to submit additional evidence showing the distinctions between Applicants' invention to be novel and nonobvious in view of the prior art.

The foregoing remarks are intended to assist the Examiner in re-examining the application and in the course of explanation may employ shortened or more specific or variant descriptions of some of the claim language. Such descriptions are not intended to limit the scope of the claims; the actual claim language should be considered in each case. Furthermore, the remarks are not to be considered to be exhaustive of the facets of the invention that render it patentable, being only examples of certain advantageous features and differences which Applicants' attorney chooses to mention at this time.

CONCLUSION

In view of the amendments and remarks set forth herein, Applicants respectfully submit that the application is in condition for allowance and favorable action is respectfully requested.

Respectfully submitted,

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James E. Bradley
Reg. No. 27,536

BRACEWELL & GIULIANI LLP
P.O. Box 61389
Houston, Texas 77208-1389
Telephone: (713) 221-3301
Facsimile (713) 222-3287

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